Taking Mobile Mainstream

Intel® Centrino™ Mobile Technology

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Intel Mobile Platforms Group

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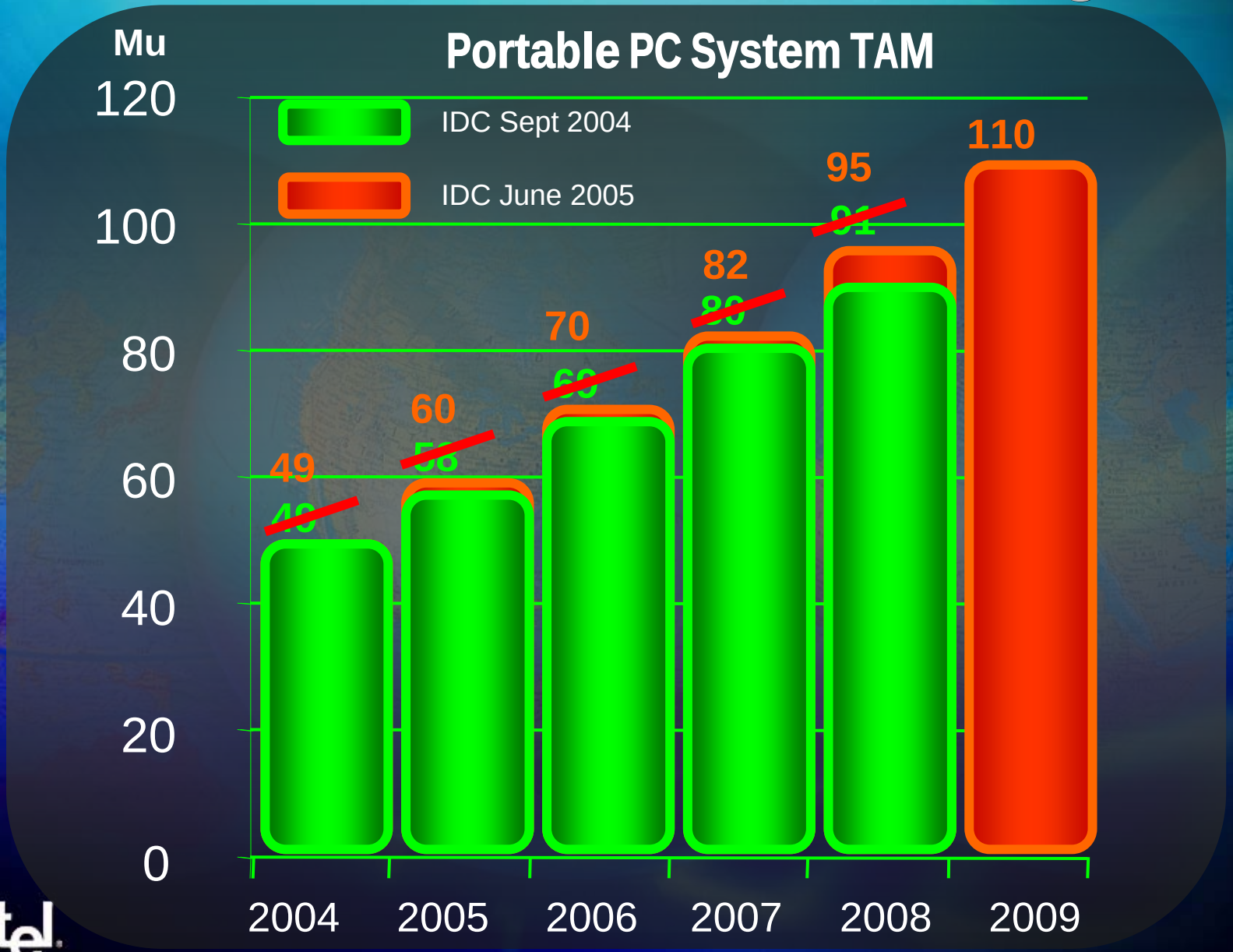
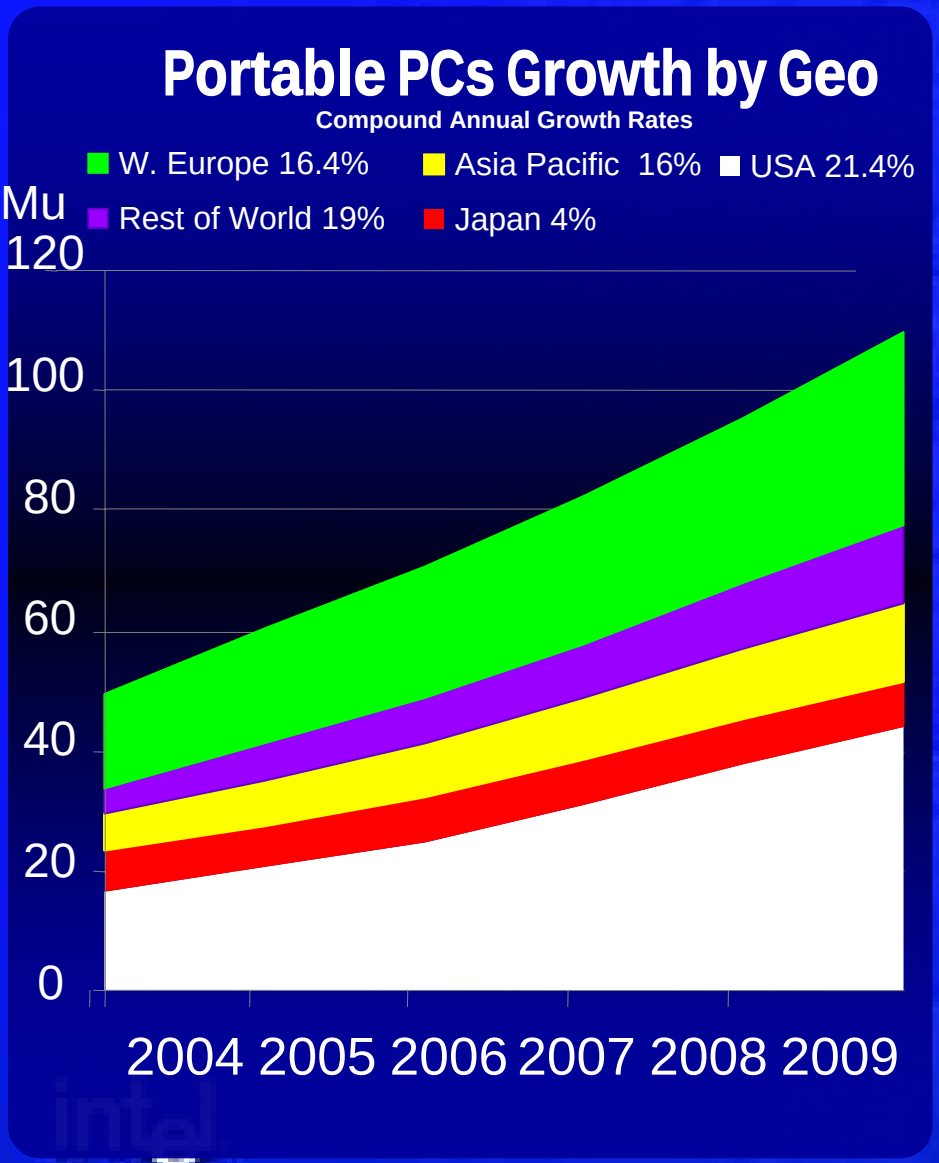
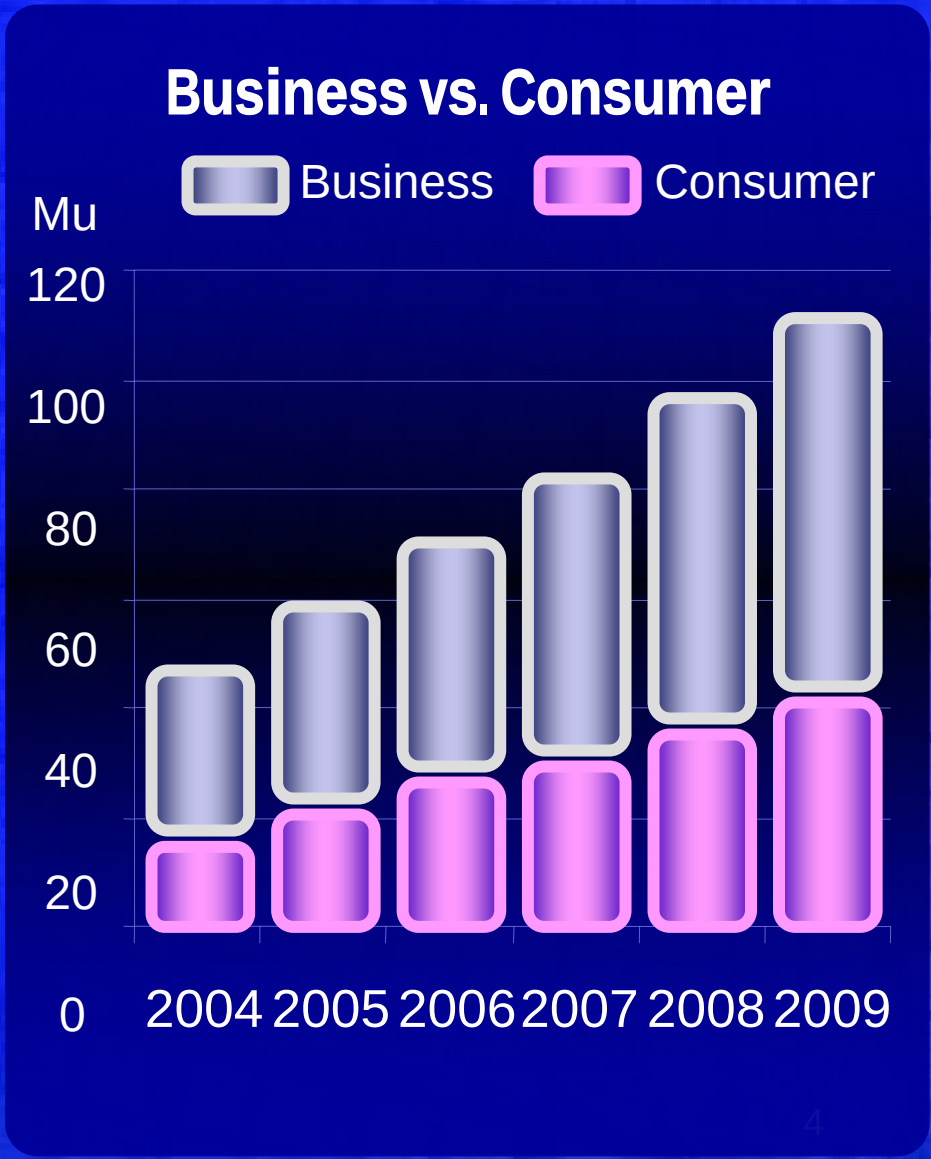
Mobile Market is Sizzling



Source: IDC

Double Digit Growth





Source: IDC June 2005

Taking Mobile Mainstream

Hit the Road

- **34%** of families have taken a laptop PC on vacation, **>50%** likely to take a laptop PC on a future vacation[1]
- wireless networks available on **>85%** of colleges campuses[2]
- US laptop PCs outpaced desktop sales for first time - **52%** 2nd Qtr '05[3]

Back to the Books

TV on-the-go

- **51%** of men steal a glance at other people's laptops; of which **64%** are looking at style and design[6]
- Women want more from their technology, **62%** enthusiastic use new features on computers[6]

Check it out!

"...the popularity of Centrino, Intel's wireless chipset, has boosted demand by consumers...."[7]

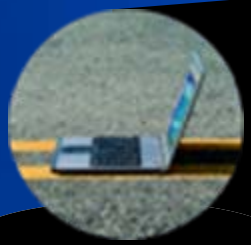
1- Harris Interactive for Intel – July 2005), 2- '04 National Survey of Info. Tech. in US Higher Ed, 3- Current Analysis, 4- Intel study, Aug. 2005, 5- (Paradigm Research in Saudi Arabia, Lebanon and UAE, 300 respondents, 6- Harris Interactive for Intel – Jan. 2004), 7- Dow Jones News Service, Donna Fuscaldo,14 July 2005

Intel Mobile Innovation Engine

	Sonoma	Napa	Napa Refresh
Processor	Mobile Intel® Pentium® M processor (Dothan)	Dual-core, mobile optimized micro-arch[illegible]	Dual-core, Next Gen Micro-architecture, Intel® AMT, VT, EM64T (Merom)
Chipset	Mobile Intel® 915 Express Chipset Family	[illegible] (Calistoga)	Mobile Intel® 945 Express Chipset Family (Calistoga)
Wireless	Intel® PRO/Wireless 2915ABG Network Connection	Intel® PRO/Wireless 3945ABG Network Connection	Intel® PRO/Wireless 3945ABG Network Connection
	2005	Q1 '06	2H '06

>220 Designs

Napa: Advancing The Four Vectors



Performance

- 1st mobile dual core processor on 65 nm
- Intel® Smart Cache Design
- Intel® Digital Media Boost
- Generation 3.5 Integrated graphics
- >200 applications built to take advantage of DC

Battery Life

- Intel® Dynamic Power Coordination
- New power saving features on Calistoga
- New Power saving features on Intel PRO/Wireless 3945
- Extended Battery Life Techniques

Wireless Connectivity

- Connect with confidence to any WLAN - 802.11a, b or g
- Support for the latest standards-based security solutions

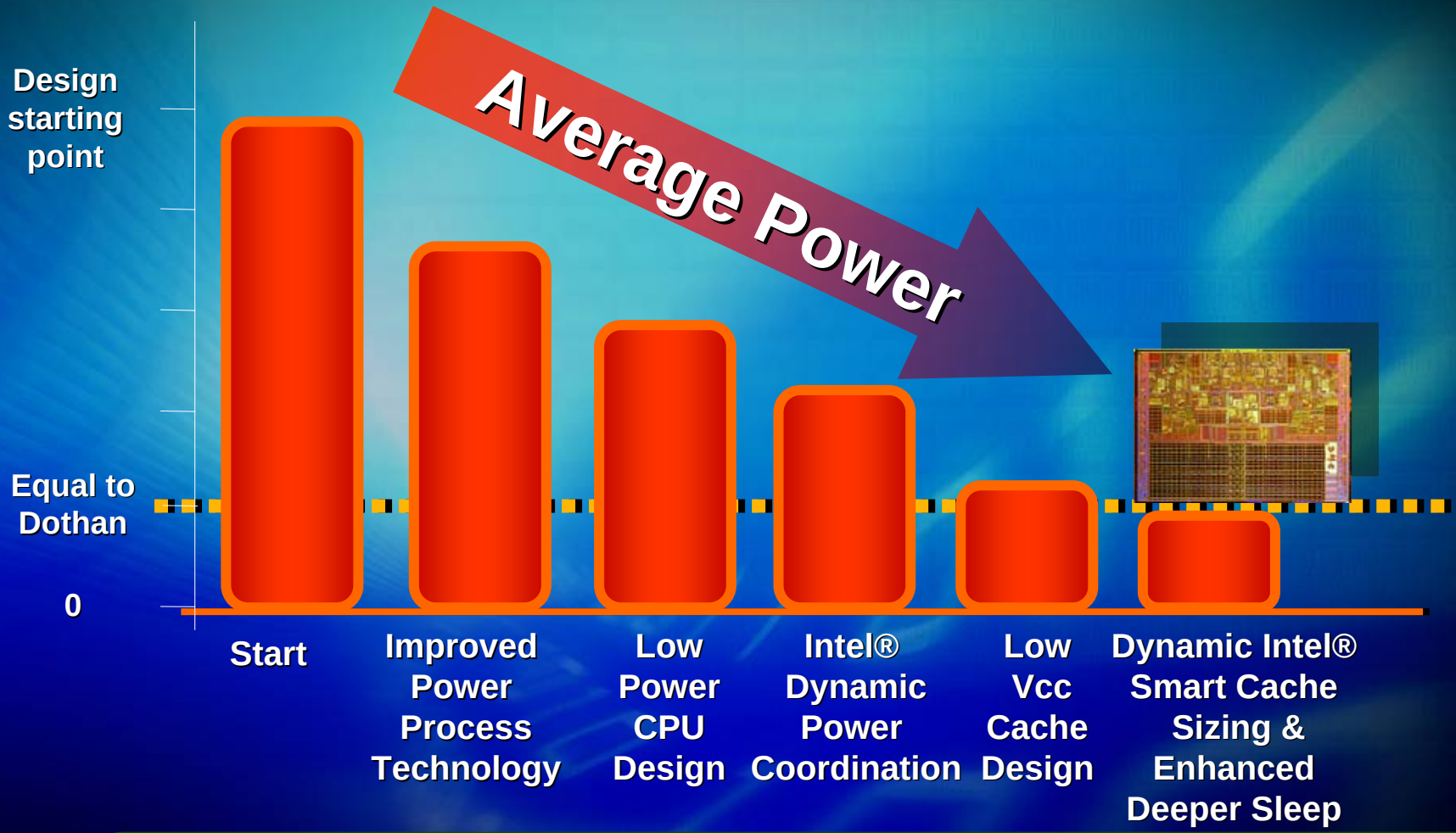
Form Fac

- Minicard design for Intel® PRO/Wireless 3945
- Small form factor GMCH
- Intel® Advanced Thermal Manager

Demo

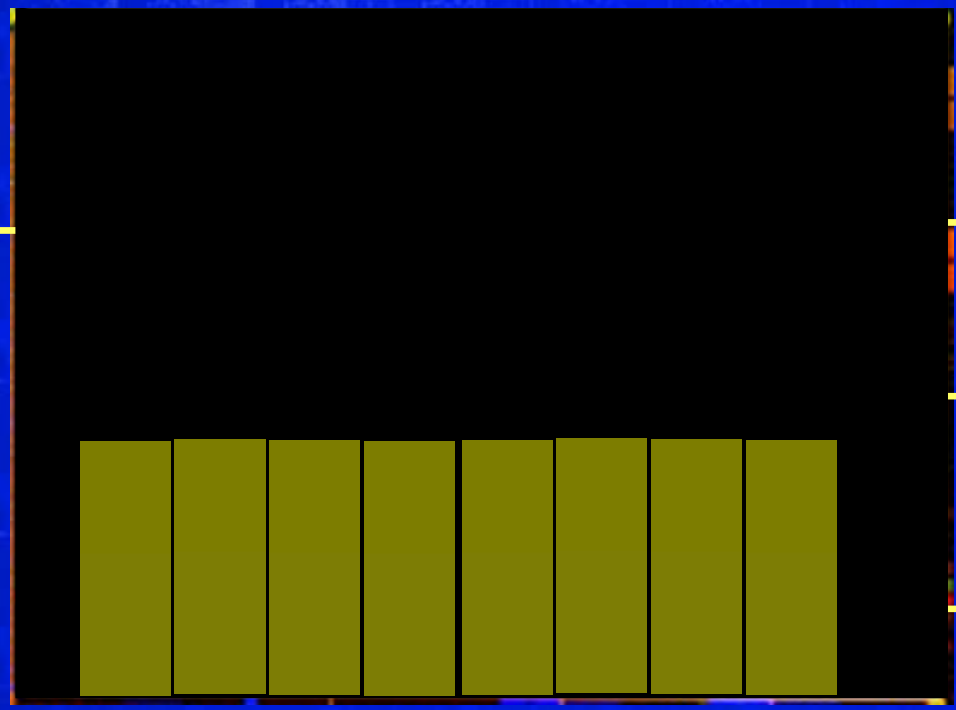
Yonah: Extending battery life

by minimizing Yonah dual core average power



Maintaining average power while delivering dual core and increasing performance

Yonah: Revolutionary Processor



New

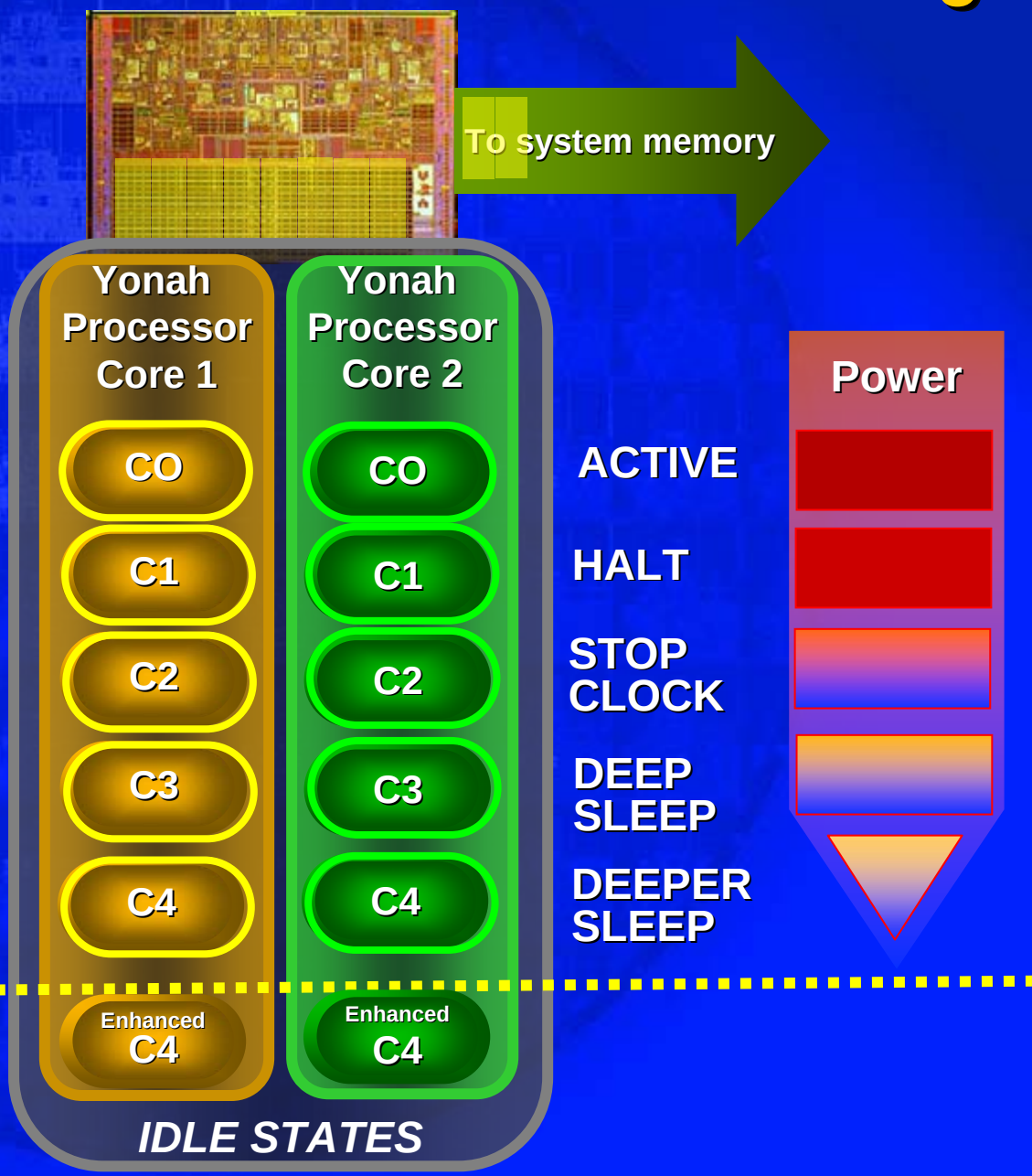
New

Designed with
Dynamic Intel® Smart Cache Sizing
and Enhanced Intel® Deeper Sleep

Yonah Dynamic Intel® Smart Cache Sizing

Unique Capability

- Dynamic Cache size changes size based on demand
- During inactivity, or no demand the cache is gradually flushed to system memory

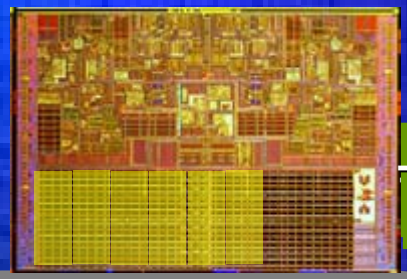


intel

Yonah: Enhanced Intel® Deeper Sleep

Unique Capability

- L2 cache empty, then cache shut off enabling Enhanced Intel® Deeper Sleep C-state to be reached



To system memory

Yonah Processor Core 1	Yonah Processor Core 2	
C0	C0	ACTIVE
C1	C1	HALT
C2	C2	STOP CLOCK
C3	C3	DEEP SLEEP
C4	C4	DEEPER SLEEP
Enhanced C4	Enhanced C4	ENHANCED DEEPER SLEEP

IDLE STATES

Intel® Digital Media Boost

Improved decoder bandwidth

- Micro-OP Fusion extended to SSE3 instructions
  - Optimizing HW resources usage
  - Increasing decoder bandwidth
- 128 bit SSE2 instructions now handled by all three decoders

Instruction Execution

30% faster SSE2 Shuffle and Unpack instructions

Faster integer DIVide

10 SSE3 instructions

Complex arithmetic (5)

Video encoding (1)

Graphics (4)

enhancements

rounding control register (FCW) renaming

Enhanced Data pre-fetch

Additional Write Output Buffers

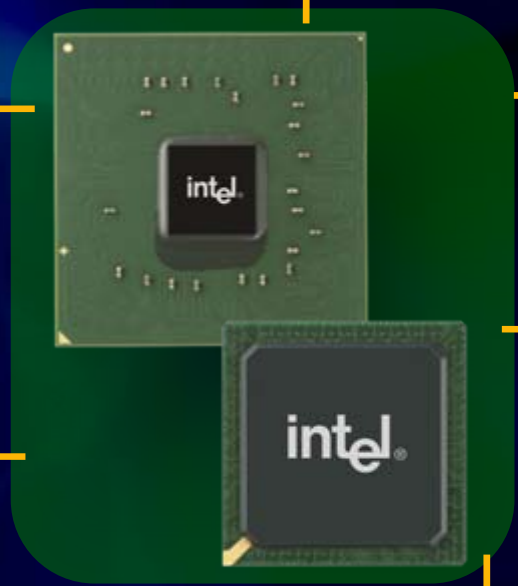
Delivering A Rich Digital Multimedia Experience

Calistoga: Mobile Intel® 945 Express Chipset Family NEW Performance Features

MPEG 2: Hardware VLD/iDCT, enhanced 4x Pixel Rate Motion Compression

Intel® Graphics Media Accelerator 950 (Gen 3.5, 250MHz)

Graphics



Video

Adaptive De-Interlacing

TV output: Full D-Connector Support (D1-D5)

Support for Intermediate Z

Protected Content: COPP/HDCP/CGMS-A Support

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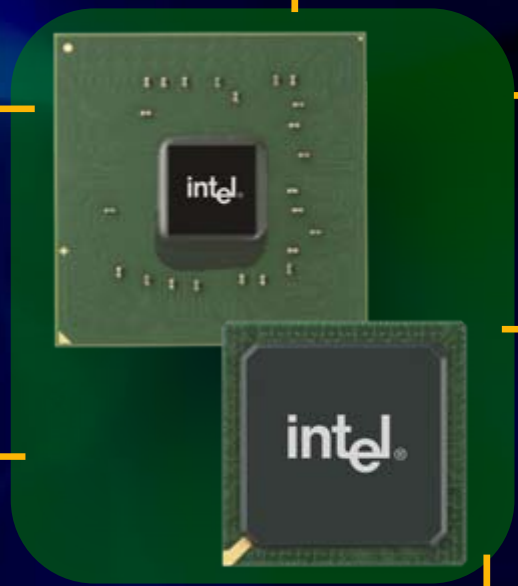

Graphics

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Calistoga: Mobile Intel® 945 Express Chipset Family Power Conservation Features

Intel® Smart 2D Display Technology

Intel® Automatic Display Brightness

Intel® Rapid Memory Power Management

667MHz Power Optimized PSB (Std, LV)

Intel® Dual-Frequency Graphics Technology

Intel® Display Power Saving Technology

Power Features Contribute to 0.5w Average Power Savings on Napa

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Intel® PRO/Wireless 3945ABG Network Connection

Intel® PROSet/ Wireless Software v10.0

Supports Cisco Compatible Extensions

centrino MOBILE TECHNOLOGY

Enhanced AP Selection

Interference Immunity

802.11e QoS Support

Wake on Wireless LAN (WoWLAN)

Cisco Systems

Business Class Wireless Suite

- Optimal AP Selection Technology
- Enhanced VoIP Quality Technology

Enhanced Performance and Manageability

Intel's Notebook Ecosystem

Common Building Block Program

HITACHI Inspire the Next
FUJITSU
Seagate
Panasonic
Quanta Storage
Lite-On
CMO
AUO
CPT, QDI

Asus, Compal, FIC and Wistron + Gigabyte, Sabio, Quanta, MSI, Aopen and Clevo

Intel Wireless Verification Program >70k Wi-Fi Hotspots; Extending to WWAN. WiMax

SINGAPORE AIRLINES, SAS, JAL, ELAL, ANA, CHINA AIRLINES, KOREAN AIR, Asiana Airlines, Lufthansa, Etihad, Austrian

connexion by Boeing℠

Connect with a laptop featuring centrino MOBILE TECHNOLOGY

Intel Concept PC Program

TCL
MEDION
Quanta Computer 廣達電腦

Mobilized Software Initiative

5x more applications in 2 years

Runs great on centrino MOBILE TECHNOLOGY

Intel's 8hrs in '08 Initiative

Panasonic
O2Micro
Japan Pionics Co.,Ltd.
TOSHIBA
Infineon
UltraCell
ATI
Zinc Matrix Power
BOE HYDIS
CLAIRVOYANTE

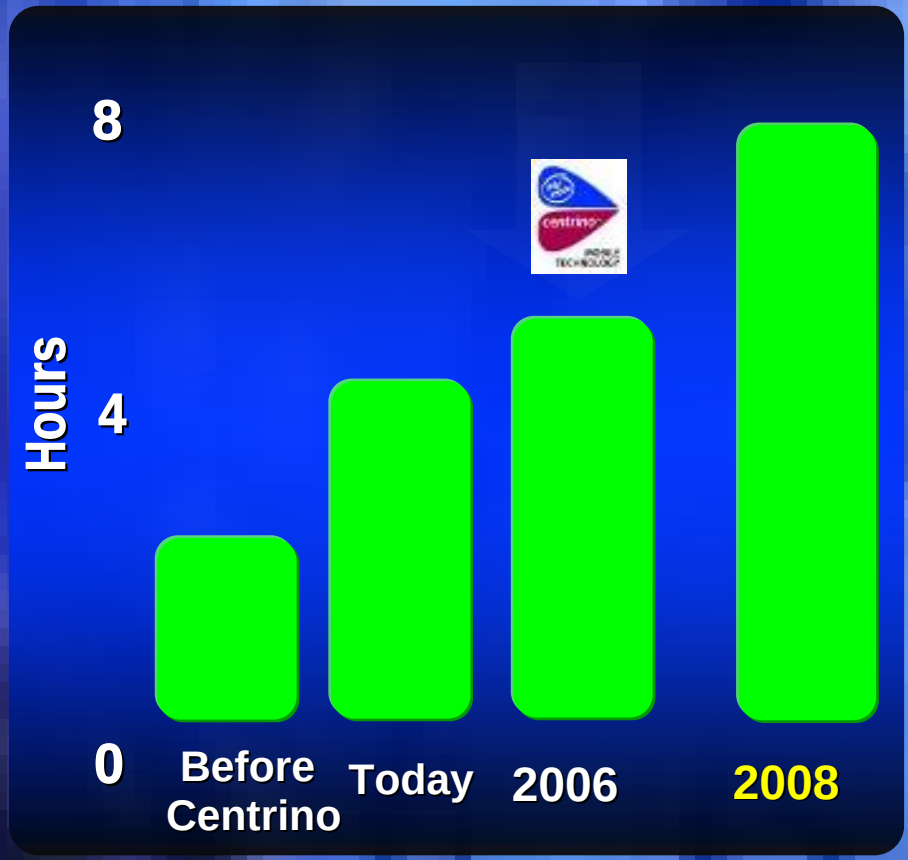
Source: Intel

The Battery Life Challenge

Goal delivering 8hr Battery Life in 2008

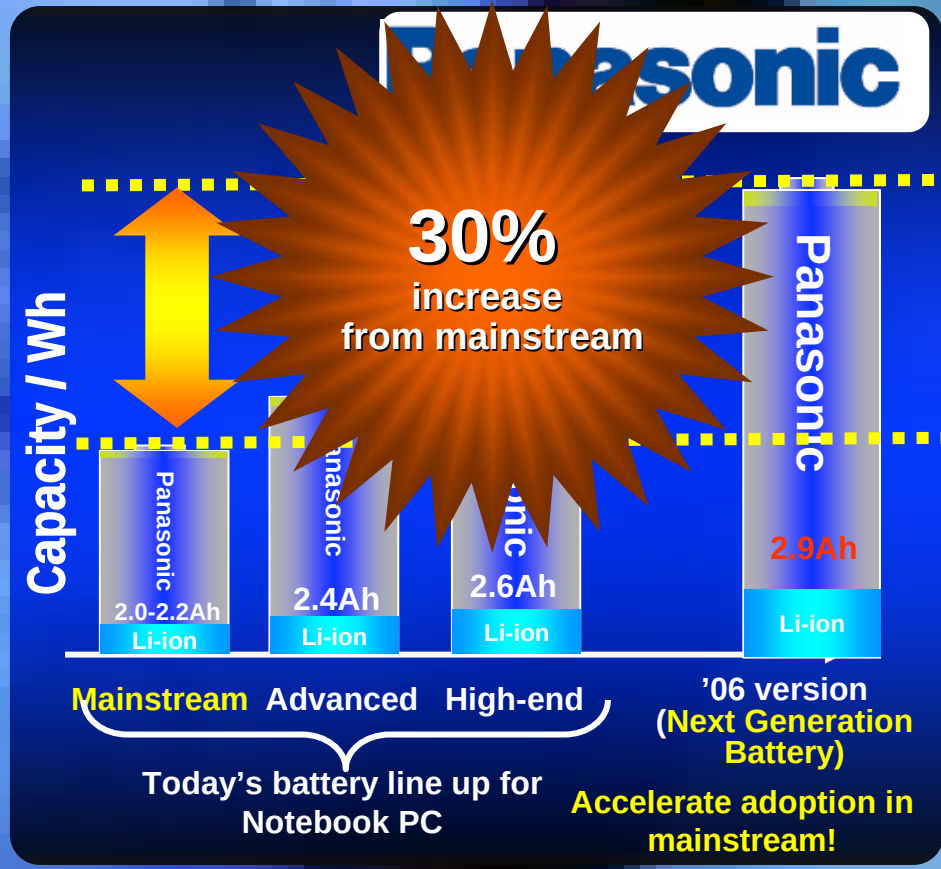
The Goal:

All Day, Single Charge by '08



New Battery Chemistry:

Intel & Panasonic Joint Development



Show & Tell

Intel Mobilized Software Initiative

Runs great on centrino MOBILE TECHNOLOGY

TV

'Synch-n-go' apps a'la Tivo-to-Go

Gaming

GAS powered GAMES®

Dungeon Siege II – First Mobile Optimized Game!*

intel

Demo

Napa: Collaboration and VoIP

Announcing Avaya Optimizations

Avaya SIP-based

"The adoption of IP telephony by enterprises is growing markedly with more than 70 percent year-over-year growth rate. And yet, the major part of the adoption curve still lies ahead."

Jeremy Duke, Synergy Research Group 08/05

Napa: Collaboration and VoIP

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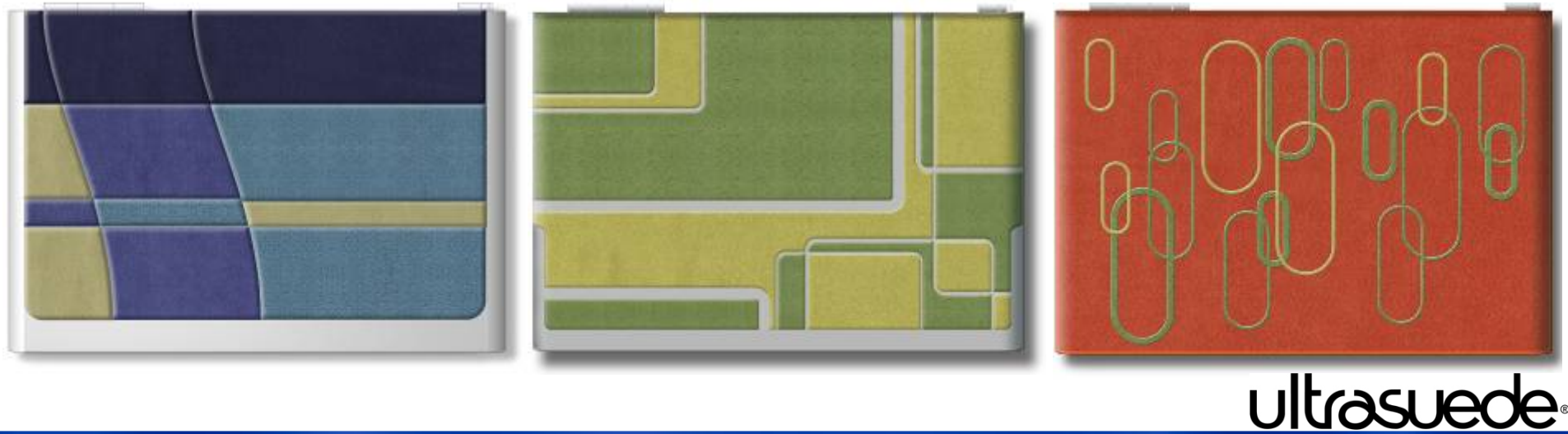
What happens when

Brains meets Beauty?

intel

ultrasuede

Touch of Technology



Intel Innovation Inside &
Ultrasuede* Innovation Outside

PC Personalization Furthers Adoption in Mainstream

Show and Tell

Summary

- Mobile PC growth is strong driven by consumer demand, lifestyle choices
- Next generation Napa platform will boost performance, graphics and battery life for '06 notebooks.
- Intel continues focus on ecosystem to support mobile market segment growth.

Example: Adaptive De-Interlacing

Before

Bob artifacts

After Adaptive De-Interlacing

Free of jitter and jagged edges

Enhances Video Playback For Video Applications That Take Advantage of De-Interlacing